

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Status of Claims:

Claims 2, 4, 8, 10, 14 and 16 are currently being canceled

Claims 1, 3, 5-7, 11-13 and 17 are currently being amended.

No claims are currently being added.

This amendment and reply cancels and amends claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claims remain under examination in the application, is presented, with an appropriate defined status identifier.

After canceling and amending the claims as set forth above, claims 1, 3, 5-7, 9, 11-13, 15, 17 and 18 are now pending in this application for examination on the merits.

Claim Rejections – Non-Statutory Subject Matter:

In the Office Action, claims 1-6 were rejected under 35 U.S.C. § 101, as being directed to non-statutory subject matter, for the reasons set forth on pages 2 and 3 of the Office Action. By way of this amendment and reply, claims 1, 3, 5 and 6 have been amended in accordance with the PTO Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (and claims 2 and 4 have been canceled), whereby claims 1, 3, 5 and 6 are believed to fully comply with 35 U.S.C. § 101.

Claim Rejections – Prior Art:

In the Office Action, claims 1-3, 7-9 and 13-15 were rejected under 35 U.S.C. § 102(e) as being anticipated by WO2004/063991 to Shimizu et al.; claims 4, 6, 10, 12, 16 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shimizu et al.; and claims 5, 11 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shimizu et al. in view of U.S. Patent Publication No. 2006/0146187 to Handjojo. These rejections are traversed with respect to the presently pending claims under rejection, for at least the reasons given below.

Presently pending independent claim 1 now recites:

A computer program product embodied in a computer-readable medium and comprising codes that, when executed, cause a computer to perform a template matching method of detecting the position of an image region similar to a template image region from on a reference image, said method comprising the steps of:

calculating the similarity of the image region to the template image region at rough position intervals;

estimating the similarity at a position, where the similarity is not calculated, making use of the directional gradients of similarity obtained independently in a plurality of directions from the calculated values of similarity;

determining the position having a small calculated or estimated value of the similarity as the position of the similar image region; and

restricting the value range of the estimated similarity value such that a difference between the estimated similarity value and the similarity of a periphery used for the estimation or the gradient of the similarity does not exceed a threshold value.

Shimizu does not disclose, teach or suggest restricting the value range of the estimated similarity value such that a difference between the estimated similarity value and the similarity of a periphery used for the estimation or the gradient of the similarity does not exceed a threshold value.

Accordingly, presently pending independent claim 1, as well as presently pending independent claims 7 and 13 that recite similar features as discussed above with respect to claim 1, patentably distinguish over Shimizu.

Additionally, presently pending independent claims 1, 7 and 13 recite that the value range of the estimated similarity is restricted such that a difference between the estimated similarity value and the similarity of a periphery used for the estimation or the gradient of the similarity does not exceed a threshold value. This means that the value range of the estimated similarity is determined dependently on the value of the similarity of a periphery. An effect therefore is that it is possible to avoid an estimation error from being caused, as compared to a case where the value range of the estimated similarity is determined on the

basis of a constant threshold value. This is explained in paragraphs 0077 to 0086 of the specification.

Shimizu does not disclose, teach or suggest such a restriction on similarity. The maximum similarity described in column 2, line 32 of Shimizu is a value of the estimated similarity which is obtained by estimating the similarity, and is not a threshold that is given prior to similarity estimation in order to restrict the value range of the estimated similarity.

Accordingly, presently pending independent claim 1, as well as presently pending independent claims 7 and 13 that recite similar features as discussed above with respect to claim 1, patentably distinguish over Shimizu for three additional reasons.

Still further, with respect to the rejection of dependent claims 4, 10 and 16 as made on page 8 of the Office Action, this rejection is improper, since the PTO has not provided a proper basis for rejecting those claims. In particular, the Office Action states “. . . restricting the value range of the estimated similarity value and the similarity of a periphery used for the estimation or the gradient of the similarity does not exceed a threshold value, because this value allows for easy calculation of the”. Thus, the Office Action did not explain the basis for the rejection of claims 4, 10 and 16 due to the incomplete sentence on page 4 of the Office Action, and as such, this rejection is improper.

Therefore, dependent claims 4, 10 and 16 patentably distinguish over the cited art of record for these additional reasons, beyond the reasons given above for their respective base claims.

Lastly, with respect to dependent claims 5, 11 and 17, these claims are directed to a feature in which the threshold is determined on the basis of a self-similarity of a template image and a shifted template image. This similarity is different from a similarity between a template image and a reference image which is calculated in an ordinary template matching process.

Shimizu does not disclose, teach or suggest such features as recited in claims 5, 11 and 17. Figure 13 of Handjojo is a drawing that generally explains template matching, and is similar to Figure 4 of the present application. Figure 13 of Handjojo does not explain a method of calculating a threshold. Rather, Figure 13 of Handjojo is a drawing which shows

how to calculate a similarity between different frames, and it does not show a self-similarity calculation process according to claims 5, 11 and 17.

Therefore, dependent claims 5, 11 and 17 patentably distinguish over the cited art of record for these additional reasons, beyond the reasons given above for their respective base claims.

Conclusion:

Since all of the issues raised in the Office Action have been addressed in this Amendment and Reply, Applicant believes that the present application is now in condition for allowance, and an early indication of allowance is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By 

FOLEY & LARDNER LLP
Customer Number: 22428
Telephone: (202) 945-6014
Facsimile: (202) 672-5399

George C. Beck
Registration No. 38,072

Phillip J. Articola
Registration No. 38,819